



WEEKLY OVERSIGHT REPORT

CH2MHILL

**Weekly Summary Report
USEPA Oversight, Sauget Area 2, Sauget, IL
WA No. 224-RXBF-05XX / Contract No. 68-W6-0025****Week Ending Friday, September 17, 2004**

This report summarizes the Interim Remedial Action (IRA) work conducted by Solutia and its contractors from September 10 through September 17, 2004 at Site R, Sauget Area 2. The current IRA fieldwork consists of site preparation, barrier wall trenching, and backfilling, with excavation performed on day and night shifts.

Contractors Onsite

Inquip Associates Inc. (barrier wall construction contractor)
PSI (geotechnical testing subcontractor)
Zahner Survey (surveying subcontractor to Inquip)
Aerotek (air monitoring subcontractor)
URS (primary consultant for Solutia)

Work Performed This Week

Work at the site continued with excavation and backfill activities on the open trench segment located in the northern portion of Site R. Backfill was placed into the open trench on five days during the week.

Excavation activities continued with the Liebherr 843 and Liebherr 853 hydraulic clamshells during the week. The open trench ended the week at approximately 1,343 feet in length.

Excavation activities were estimated to be approximately 99 percent complete by the end of the week, with backfill activities at approximately 74 percent complete.

Groundwater Migration Control System (GMCS)

The river remained steady during the week, with measured elevations of 384.33 feet above mean sea level (amsl) on September 10, and 384.60 feet amsl on September 17. Similarly, the combined flow rate of the extraction well system remained steady at approximately 1,395 gallons per minute (gpm) from September 10 through September 15. At approximately 1:00 am on September 16, the combined pumping flow rate for the extraction well system was increased to approximately 2,000 gpm, per an agreement reached between Solutia/Monsanto and USEPA during the weekly teleconference meeting held on September 14. Solutia/Monsanto agreed to increase GMCS pumping rates to the maximum capacity for one week to assess the response of the system and the change in piezometer water levels.

Eight barrier wall piezometers, with four inside and four outside the barrier wall alignment, monitored the groundwater elevations adjacent to the barrier wall alignment during the week. Table 1 shows the river and piezometer water elevations measured on September 17, 2004 (1:00 PM). The barrier wall has been constructed adjacent to piezometer pairs P2,

P3, and P4. In the vicinity of piezometer pair P1 (station 31+00), the trench has been excavated to total depth, with a portion of the trench backfilled and overlain with slurry.

At the beginning of the reporting period (September 10), all piezometer pairs showed an outward gradient across the barrier wall. Water levels in the piezometer located inside the barrier wall varied between 0.5 and 5 feet higher than the water level in the corresponding piezometer located outside of the barrier wall. After the GMCS pumping rate was increased on September 16, a response was observed in the water levels in each of the piezometers. The four piezometers located inside the barrier wall responded with decreasing water levels, while the piezometers located outside the barrier wall responded with gradual increases in water levels. In piezometer pairs P1 and P4, a smaller difference in water-level elevation was observed across the barrier wall early in the week. These piezometer pairs showed an inward gradient across the barrier wall by the end of the week (September 17). In piezometer pairs P2 and P3, a larger difference in water-level elevation was observed across the barrier wall early in the week. This elevation difference decreased after the pumping rate increased on September 16, but an outward gradient varying between 1 to 2.5 feet across the barrier wall remained by the end of the reporting period on September 17.

During the reporting period, the river level remained lower than the piezometers located inside the barrier wall prior to increasing the extraction system pumping rate. By the end of the week, water levels in the four piezometers located inside the barrier wall alignment fell below the river elevation.

Consequently by September 17, the GMCS system met the gradient control metrics (i.e., river level greater than or equal to water levels in the inside piezometers) for Groundwater Alternative C (Hydraulic Barrier) in the Focused Feasibility Study (FFS) for Sauget Area 2 Sites O, Q, R, and S (URS, 2003).

The September 2002 Record of Decision (ROD) metrics state there should be a zero gradient across the barrier wall, as measured between the piezometer pairs on either side of the wall. By September 17, the ROD metrics had not been met, although the gradient across the wall generally decreased in each of the piezometer pairs.

TABLE 1
River and Piezometer Water Elevations – September 17, 2004 (13:00)

	Elevation (ft above mean sea level)
River Level	384.60
Piezometer 1S – inside wall (northern-most pair)	383.27
Piezometer 1N – outside wall (northern-most pair)	384.59
Piezometer 2E – inside wall (north-central pair)	384.39
Piezometer 2W – outside wall (north-central pair)	382.09
Piezometer 3E – inside wall (south-central pair)	383.37
Piezometer 3W – outside wall (south-central pair)	382.11
Piezometer 4E – inside wall (southern-most pair)	383.68
Piezometer 4W – outside wall (southern-most pair)	384.22

Stormwater

No stormwater activity occurred during the week

Barrier Wall Construction

Inquip continued excavation of the open trench along the barrier wall alignment, extending the trench excavation to station 37+93. As of September 17, the open trench was approximately 1,343 feet in length.

Inquip continued excavation in the open trench during a night shift. During this shift, the 853 hydraulic clamshell excavated on three evenings during the week and the Liebherr 843 hydraulic clamshell rig excavated spoils from the trench on one night of the week. During the night shift, slurry was pumped into the trench as necessary. No backfill activity occurred during the night shift.

The Koehring 1266 trackhoe completed excavation activities, and the process of decontamination and disassembly of the rig started during the week. The Liebherr 843 hydraulic clamshell operated on three days. The Liebherr 853 hydraulic clamshell excavated on five days during the week and performed trench clean out. The Liebherr 855 mechanical clamshell finished work with the desanding unit and was decontaminated and tracked outside the exclusion zone on September 17.

During the week, the depth of the open trench was measured daily. Table 2 summarizes the trench profile that was measured on the morning of September 17. On Graph 1, the current trench profile is depicted in comparison with the trench profile measured on September 13. Graph 2 shows the overall progress of the barrier wall construction.

Slurry

No fresh slurry was mixed this week. Slurry was pumped into the trench from the holding ponds.

Slurry samples were collected from the top and the bottom of the trench daily and were tested for viscosity, density (unit weight), filtrate loss, pH and sand content. Analysis of trench slurry samples from the trench segment either met the specifications or satisfied the quality targets.

Spoils Handling

During the week, spoils were transferred from locations adjacent to the open trench or from the temporary stockpile on top of the landfill to the backfill mix pad near station 24+50.

Backfill and Trench Cleaning

During the week, Inquip mixed and placed approximately 1,740 cubic yards of backfill material into the open trench. Backfill operations took place on five days during the week.

The backfill spoils were mixed with approximately two percent of dry bentonite and slurry as necessary to meet quality specifications.

The backfill was tested by PSI for slump, unit weight and moisture content. The unit weight of backfill placed during the week ranged from 127 to 132.1 pounds per cubic foot (pcf). Slump test results averaged 4.0 inches, and the moisture content results ranged from 17.9 to 19.7 percent. All test results met the minimum requirements.

Tests on the backfill mixture to be conducted offsite by Mueser-Rutledge and PSI's labs included permeability and gradation. Gradation and permeability results from eight samples collected and sent to offsite labs through September 8 were available this week. Out of the eight results, six samples passed specifications for the #200 sieve size, with two tests failing. Both failing tests are in the process of being sent to a separate lab for independent testing. Three permeability test results were received this week and each result met and outperformed the permeability specification by one order of magnitude.

Prior to backfill placement, the trench bottom was cleaned to bedrock over at least a 40-foot linear stretch. Depth-to-bottom measurements were made every 10 linear feet of trench to ensure the bottom of the trench was at a consistent depth and on the bedrock surface. These depth measurements were performed with the clamshell rig's instrumentation and confirmed in two locations manually with the downrigger (plumbob on wire). The Liebherr 853 hydraulic clamshell rig was used for this purpose on days when backfill was placed. Two samples were collected daily by PSI with a clam sampler from the top of the backfill prior to backfill placement. These samples were visually checked to ensure that the backfill surface in the trench was clean and free of any sand.

Other Activities

Aerotek performed routine air monitoring conducted at Site R on four days of the week.

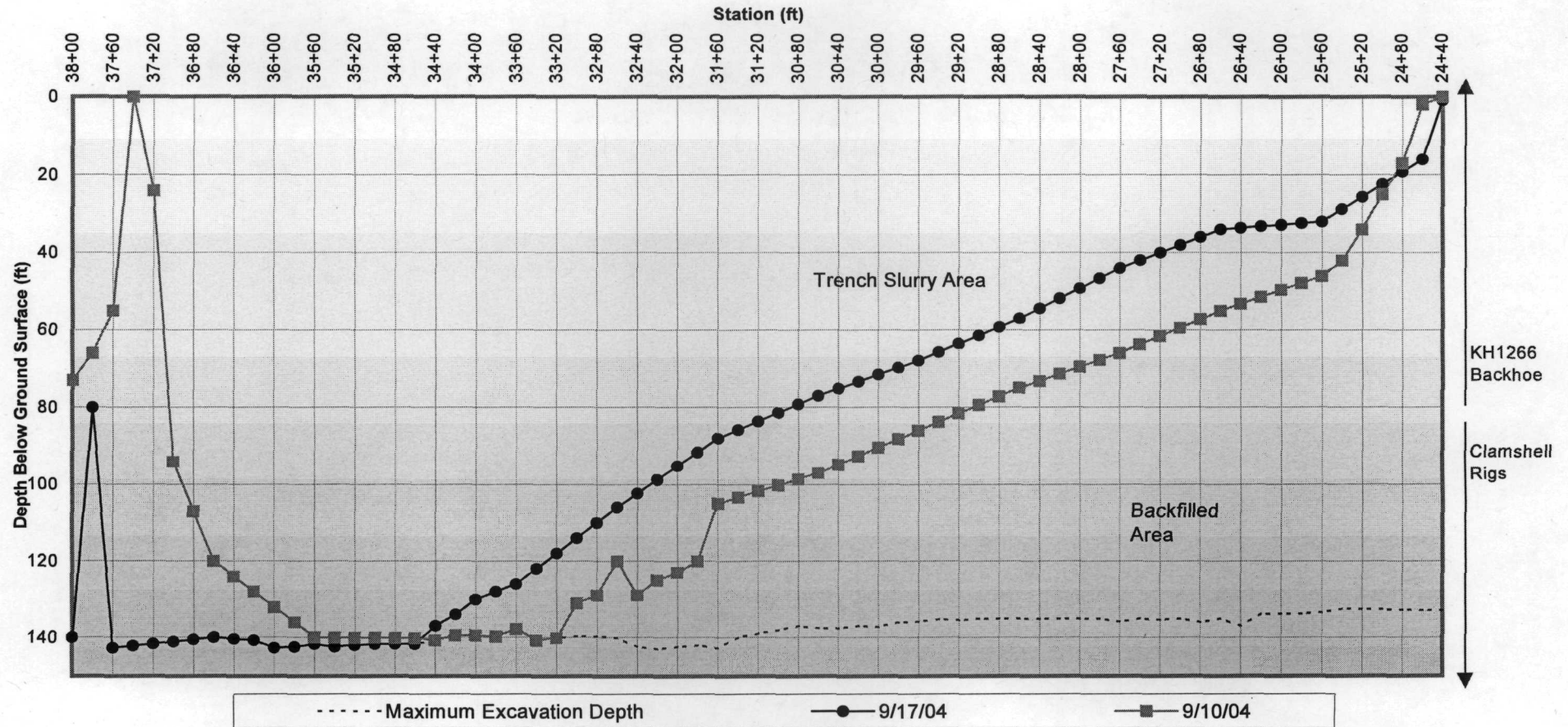
Inquip began excavating the top three feet of backfill from the top of the southern portion of the trench, from station 5+00 to approximately station 9+50, in preparation for the placement of the barrier wall cap material and final grading of this area of Site R.

TABLE 2

Trench Profile (Downrigger Measurements) for the Barrier Wall Trench – September 17, 2004 8:00(AM)

Station ID	Depth to bottom (ft below ground surface)
24+50	1
24+60	16
25+60	27
26+60	34
27+60	44
28+60	57
29+60	68
30+60	77
31+60	88
32+60	106
33+60	126
33+80	128
34+00	130
34+20	134
34+40	137
34+60	143
34+80	144
35+00	143
35+20	144
35+40	145
35+60	144
36+60	141
37+60	141
37+93	140

Graph 1 - Weekly Barrier Wall Construction Progress - Open Trench Segment
September 10 through September 17, 2004

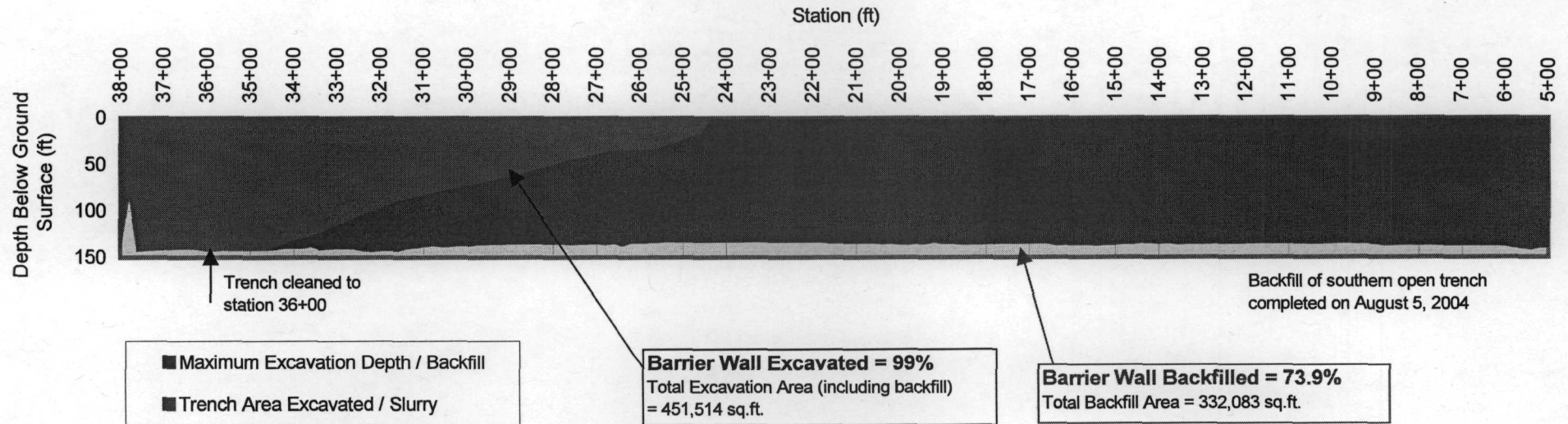


Note: Data plotted for the week through measurements on 9/13/04 and 9/17/04.

Individual panels and wedges are present between stations 37+40 and 37+93.

Some data points are interpolated between the available data points where trench depths were read.

Graph 2 - Barrier Wall Construction Progress by September 17, 2004 (PM)

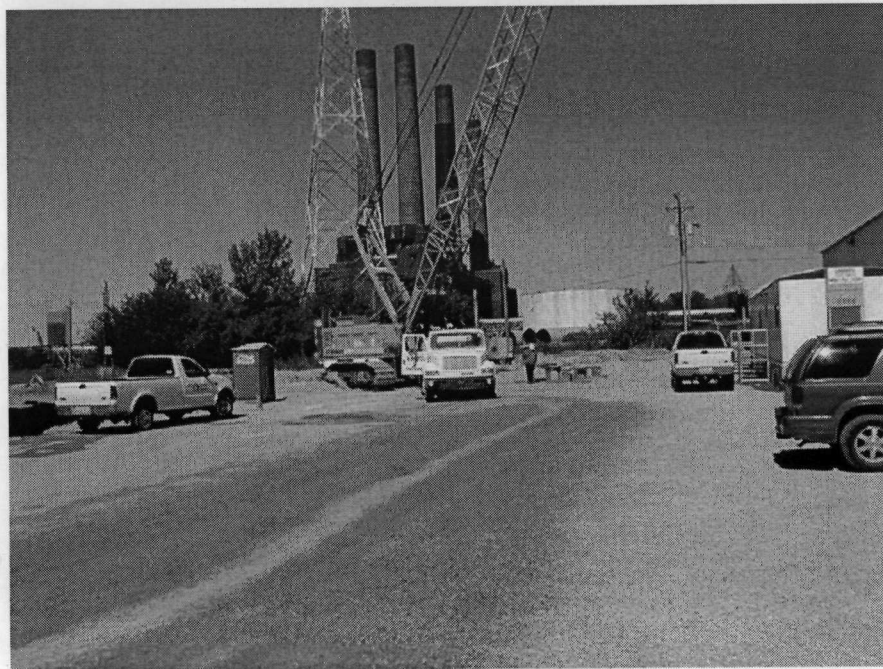


Note: Data plotted for the week through AM measurements on 9/17/04.

Photos from September 11, 2004 through September 17, 2004:



450 Trackhoe excavating on south end of site in preparation for final cap on barrier wall.
(September 16, 2004)



855 Mechanical Clamshell being removed from exclusion zone (September 17, 2004)